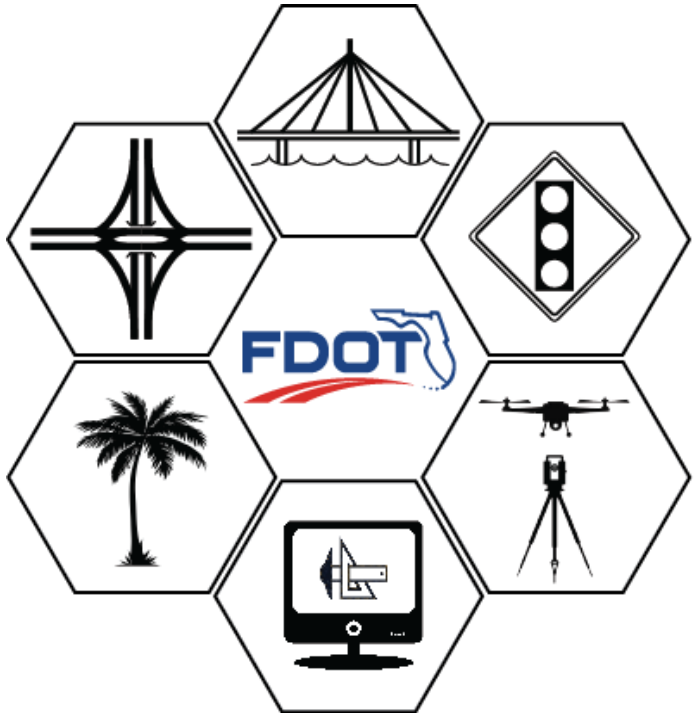


FDOT TRANSPORTATION SYMPOSIUM 2019

FDOT 3D Initiatives: Making the Transition to OpenRoads Designer

Vern Danforth, PE - Andrew Poszich, EI

ORD Implementation
NexGen Plan Sheets

ORD Implementation

Jan 2018- July 2019	July 2019-Dec 2020	Starting Jan 2021
FDOT SS4 OpenRoads	FDOT Connect OpenRoads Designer	FDOT Connect OpenRoads Designer
FDOT SS4 Legacy GEOPAK Criteria	FDOT SS4 OpenRoads	
FDOT C3D 2017-18	FDOT C3D 2018-19	FDOT C3D 2019-2020

- **Bentley will not support SS4 starting in July**
- **Use of legacy GEOPAK criteria files not allowed starting in Jan 2020**
- **ORD required for projects starting in Jan 2021**

OpenRoads Designer Workflow Changes

- Survey Deliverables – SURVRD
- Existing Feature Modeling – MODLRD01-EX FEATURES
- Design and 3D Modeling – ALGNRD, DSGNRD, MODLRD
- Plan Production - PLANRD, PLPRRD, RDXSRD
- Drainage - DRPRRD
- Traffic – DSGNSP, DSGNSG, DSGNLT
- Traffic Control - TCPLRD
- Quantity Estimates - QTDSRD

ORD Implementation

OpenRoads Designer Training

NOW - Training is available for ORD through the Bentley Learn Server.

June - FDOT Symposium sessions

Oct - User Group (FLUG) workshops

Jan - Recorded webinar, custom FDOT training on-line materials

Jan thru June – District Training workshops

Modeling Class Computers

- Processor – i7
- RAM – 32G
- Video Card – 8G

1. HEEP Survey of State DOTs
2. Survey of Beta Attendees
3. CADD Office testing

Frequency of crashes is directly related to the experience level of the operator.

ORD Implementation

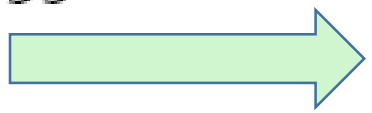
Project Delivery

- **VAULT - All active and archived CADD project data**
  - **TIMS and PEDDS migration**
- **PSEE -**
  - **Final Plans Module – PS&E Folder**
  - **Design Documentation Module**

INDEX OF ROADWAY PLANS

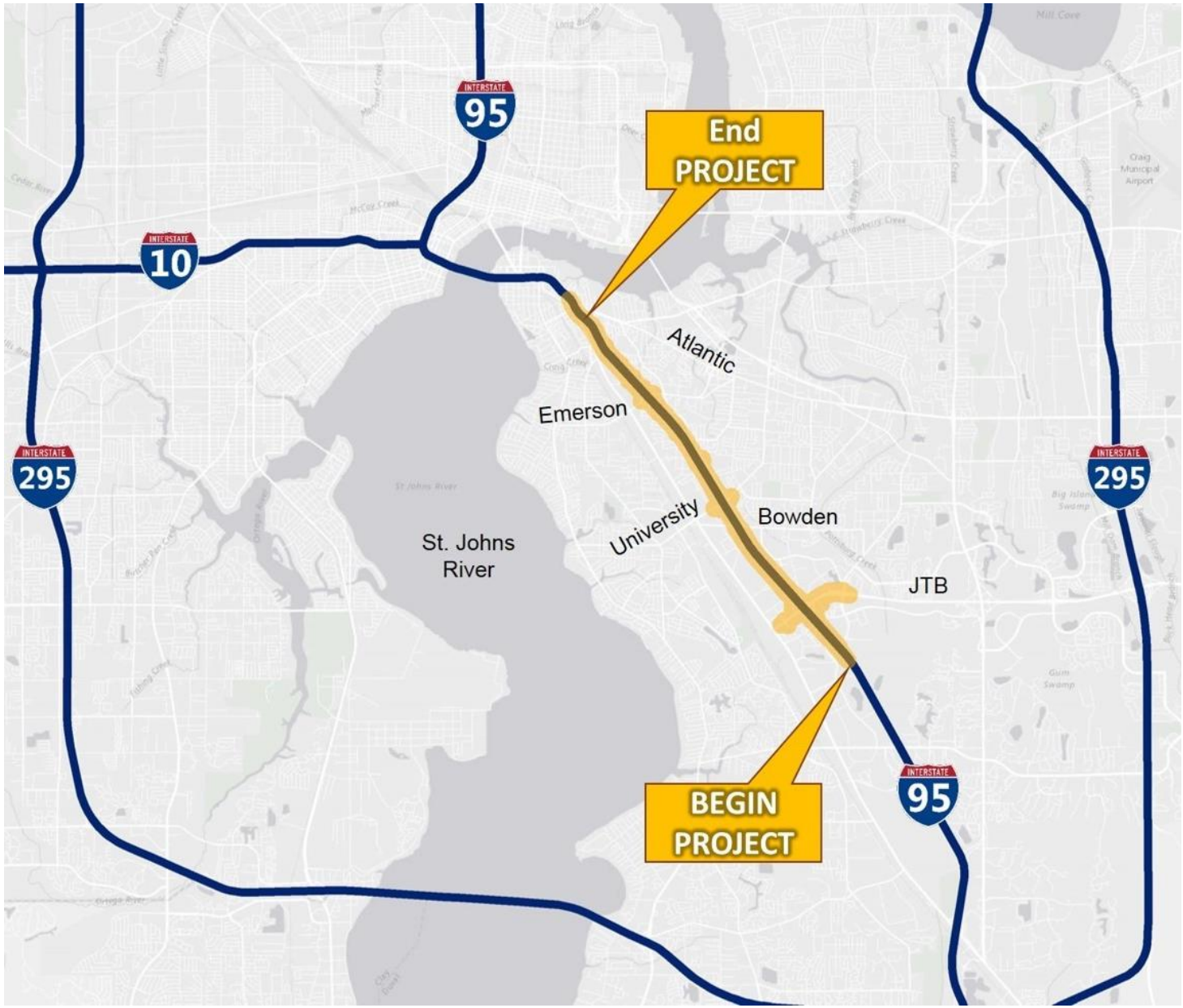
NexGen

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	SIGNATURE SHEET
3	SUMMARY OF PAY ITEMS
4	DRAINAGE MAP
5 - 6	TYPICAL SECTIONS
7	TYPICAL SECTION DETAILS
8	SUMMARY OF DRAINAGE STRUCTURES
9	OPTIONAL MATERIALS TABULATION
10	PROJECT LAYOUT
11	PROJECT CONTROL
12	GENERAL NOTES
13 -	ROADWAY PLAN-PROFILES
17	TRAFFIC MONITORING SITE
18	SPECIAL PROFILES
19	INTERSECTION LAYOUT
20 -	DRAINAGE STRUCTURES



FDOT Connect and ORD Beta Testing

I-95 Express



FDOT TRANSPORTATION SYMPOSIUM

World without Geopak

DGN houses all information

Horizontal and Vertical geometry controlled in .dgn

Cross sections linked to model

Model Driven Design

3D first design mentality

Faster geometry validation

Model review and QC

Conveying Information

Real-time design feedback

Data is just a reference away

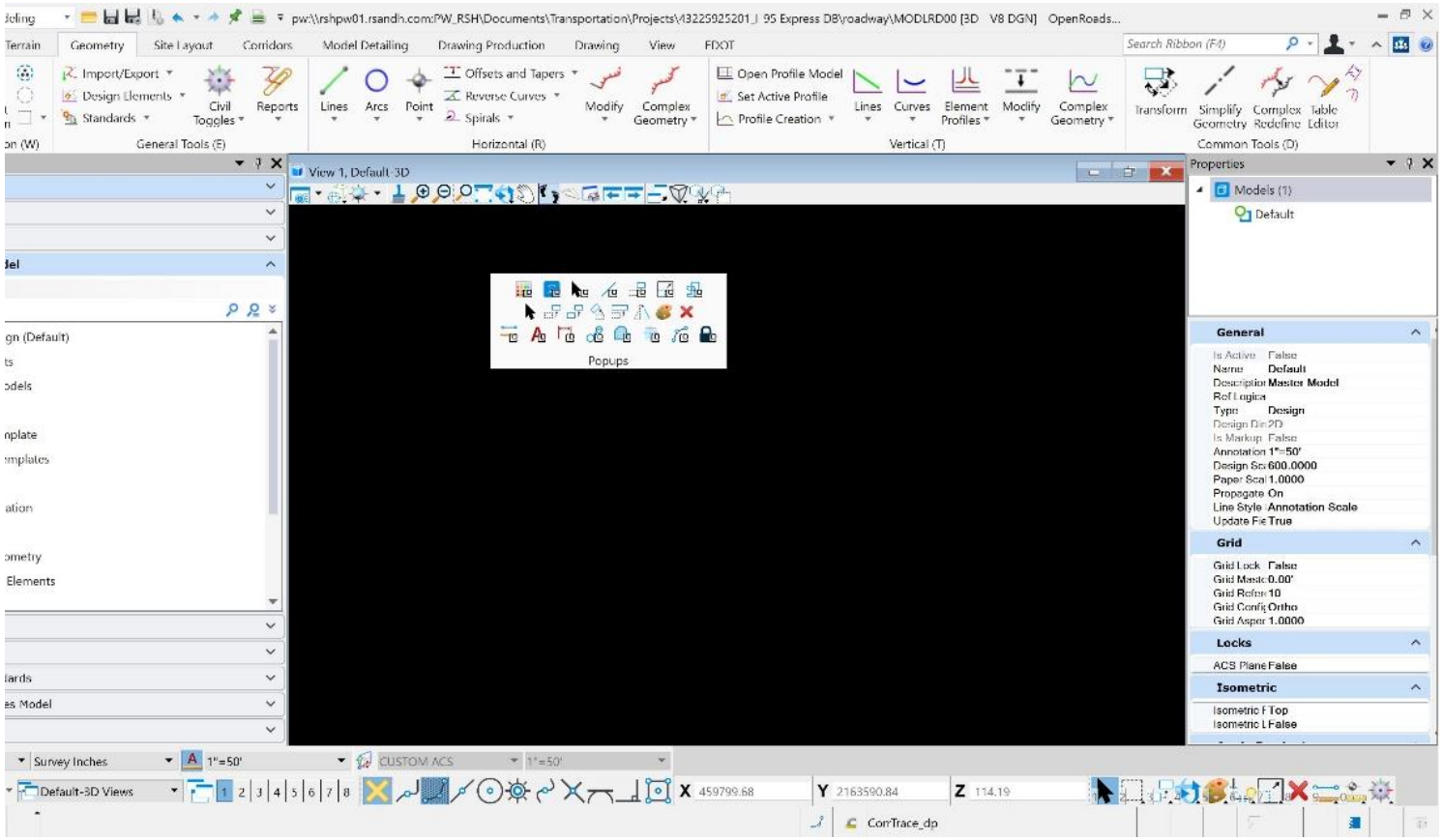
Rapid generation of alternatives

Interdisciplinary Coordination

Easily extract design information

Real-time 3D collaboration

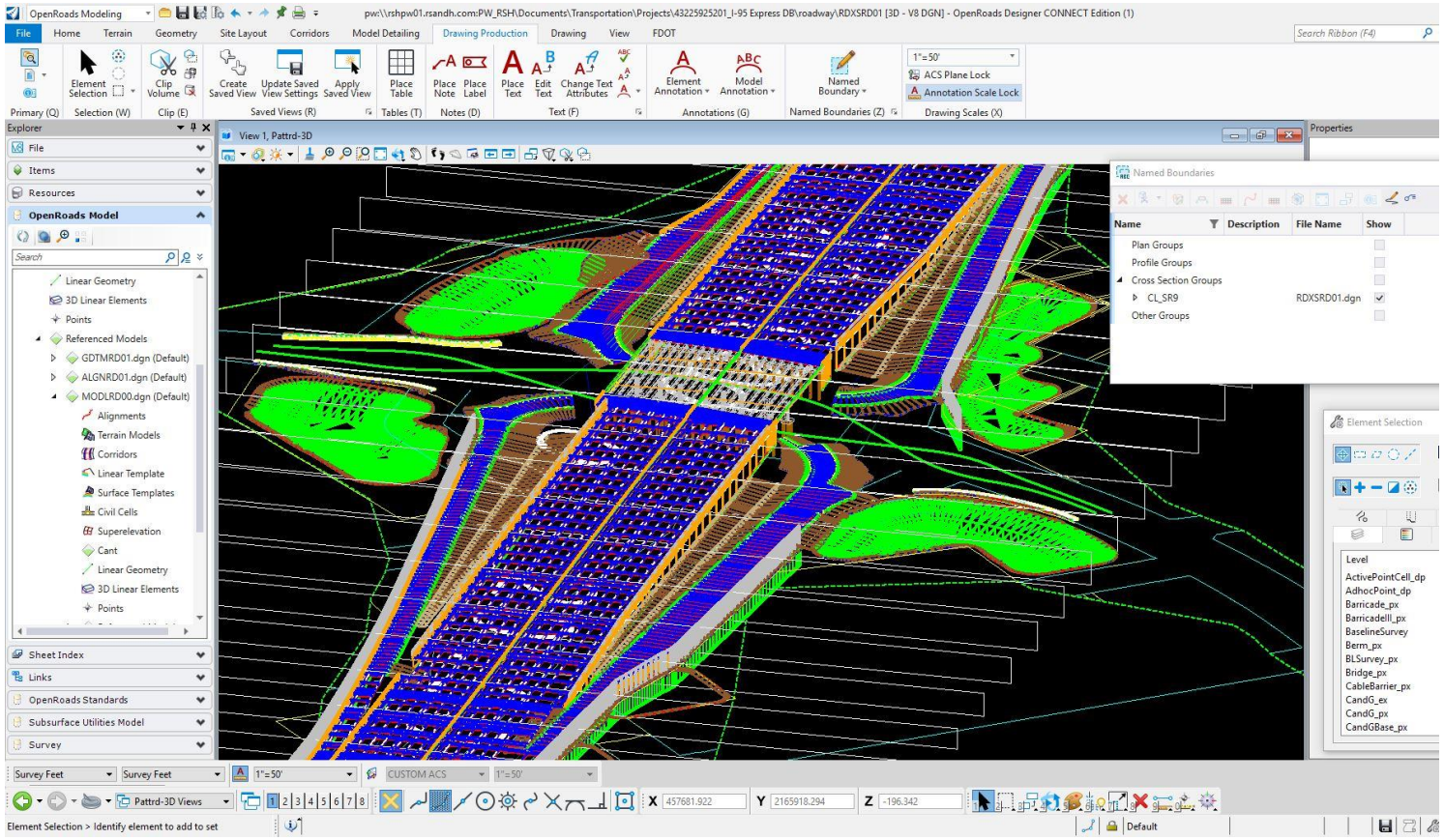
Passive design QC



Where did my tools go?

- Using the Ribbon
- Hotkeys?!
- Learn the spacebar
- Search menu
- Customize menu options

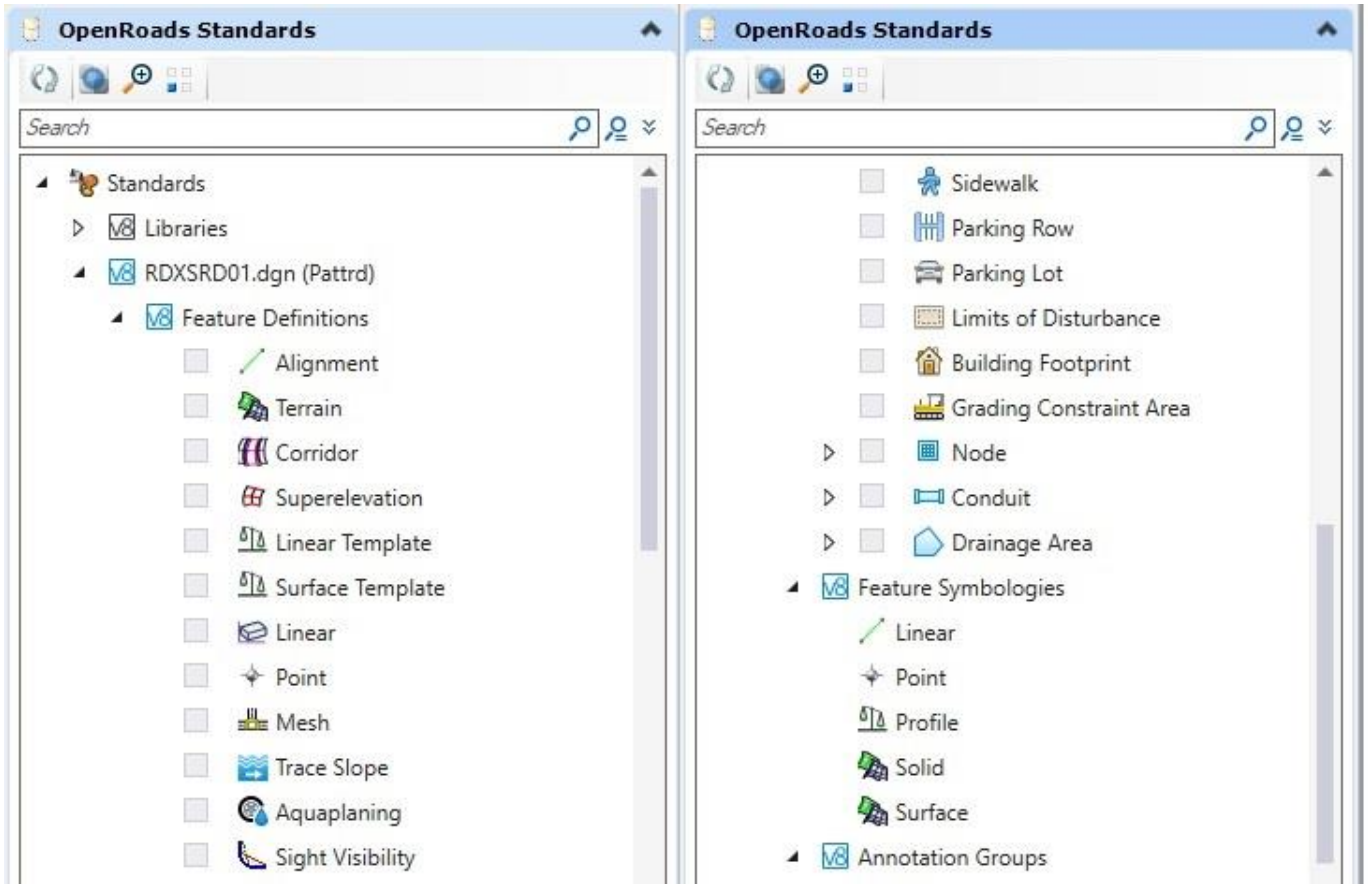
FDOT TRANSPORTATION SYMPOSIUM



Learning the new plans production workflow

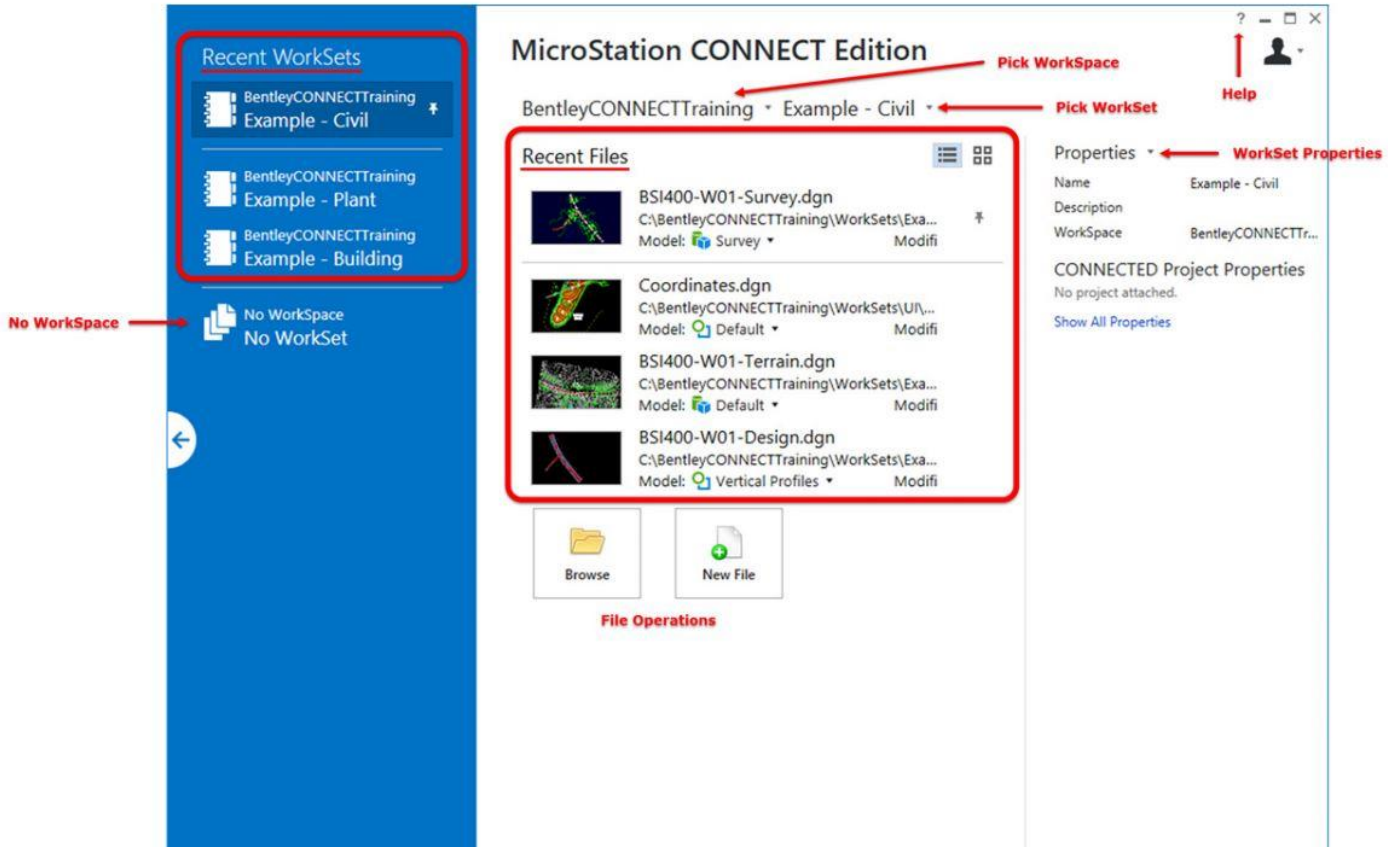
- Workflows will change
- Sheet model spaces
- Sheet indexing
- Live updating
- Bentley Learn Server

FDOT TRANSPORTATION SYMPOSIUM



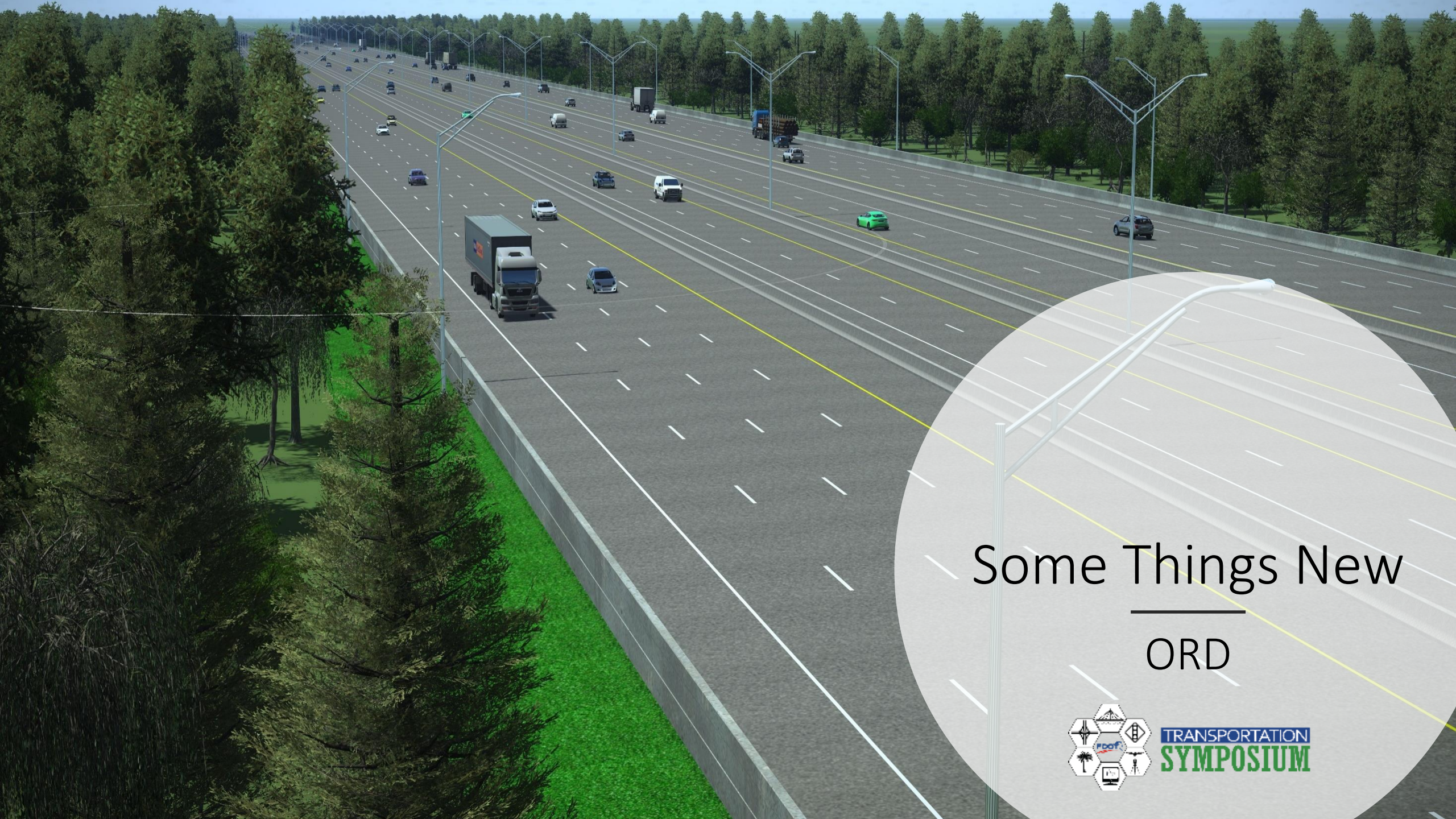
Emphasis on features

- Different then SS4
- Feature symbology
- Annotation groups
- Item types



Workspaces/Worksets

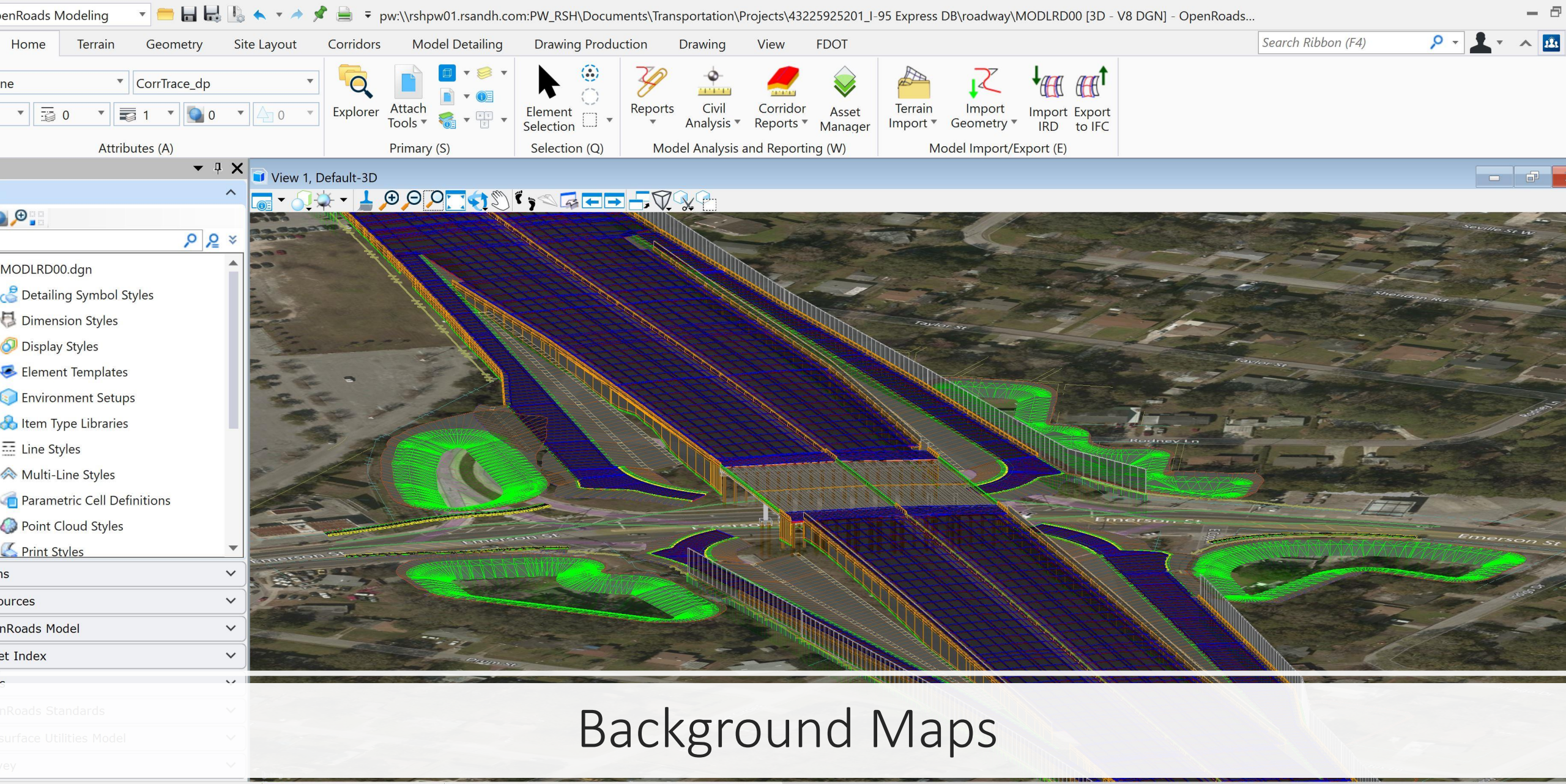
- Switch between clients/projects
- Sets boarder sheet information
- Take the time to understand



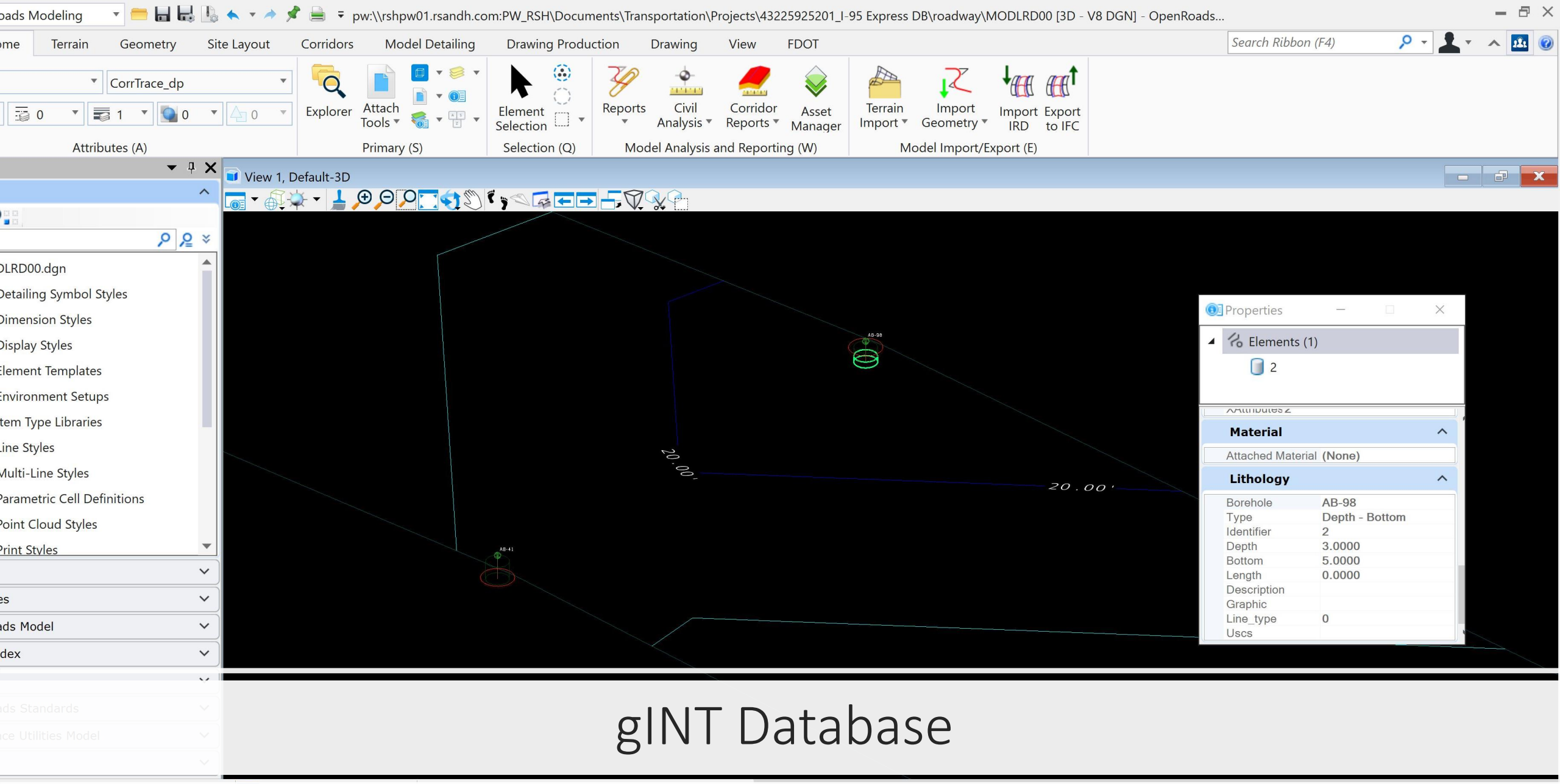
Some Things New

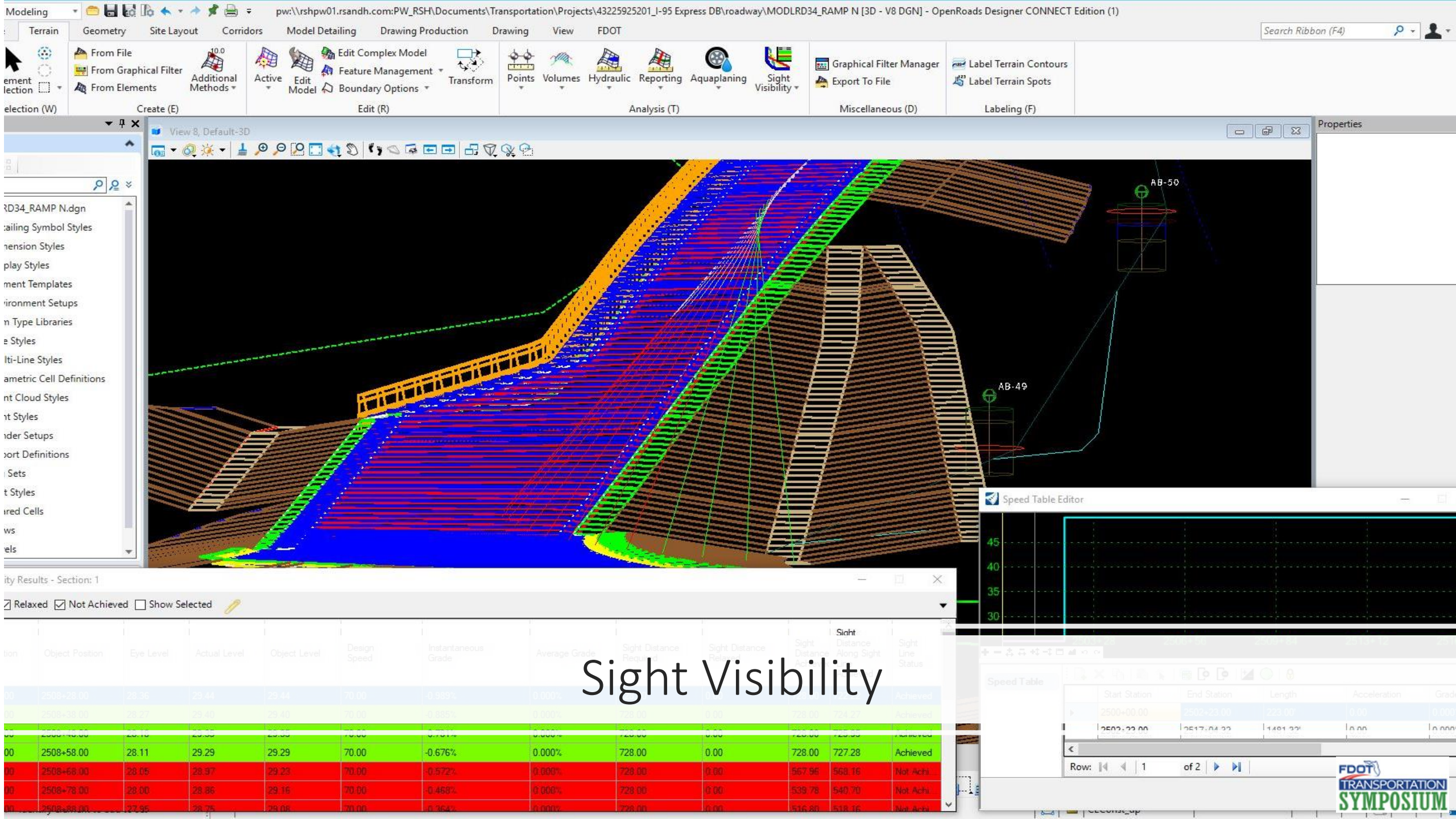
ORD

TRANSPORTATION SYMPOSIUM



Background Maps


pw:\\rshpw01.rsandh.com:PW_RSH\Documents\Transportation\Projects\43225925201_I-95 Express DB\roadway\MODLRD00 [3D - V8 DGN] - OpenRoads...
Terrain
Geometry
Site Layout
Corridors
Model Detailing
Drawing Production
Drawing
View
FDOT
Search Ribbon (F4)
CorrTrace_dp
Explorer
Attach Tools
Element Selection
Reports
Civil Analysis
Corridor Reports
Asset Manager
Terrain Import
Import Geometry
Import IRD
Export to IFC
Attributes (A)
Primary (S)
Selection (Q)
Model Analysis and Reporting (W)
Model Import/Export (E)
View 1, Default-3D
Properties
Elements (1)
2
Material
Attached Material (None)
Lithology
Borehole AB-98
Type Depth - Bottom
Identifier 2
Depth 3.0000
Bottom 5.0000
Length 0.0000
Description
Graphic
Line_type 0
Uscs
20.00'
20.00'
AB-98
AB-41
gINT Database
Survey Inches
1"=50'
CUSTOM ACS
Default-3D Views
X 459734.59
Y 2163528.04
Z 19.64
Level: 2, Ref: 48 (PW_WORKDIR:d0206896\gINT I-95 Express.dgn)
CorrTrace_dp
: 1
FDOT TRANSPORTATION SYMPOSIUM


Modeling
pw:\\rshpw01.rsandh.com:PW_RSH\Documents\Transportation\Projects\43225925201_I-95 Express DB\roadway\MODLRD34_RAMP N [3D - V8 DGN] - OpenRoads Designer CONNECT Edition (1)
Terrain
Geometry
Site Layout
Corridors
Model Detailing
Drawing Production
Drawing
View
FDOT
Search Ribbon (F4)
From File
From Graphical Filter
From Elements
Additional Methods
Create (E)
Active
Edit Model
Edit Complex Model
Feature Management
Boundary Options
Transform
Edit (R)
Points
Volumes
Hydraulic
Reporting
Aquaplaning
Sight Visibility
Analysis (T)
Graphical Filter Manager
Export To File
Miscellaneous (D)
Label Terrain Contours
Label Terrain Spots
Labeling (F)
View 8, Default-3D
AB-50
AB-49
Properties
Speed Table Editor
45
40
35
30
Relaxed
Not Achieved
Show Selected
Sight
Sight Visibility
2508+58.00
28.11
29.29
29.29
70.00
-0.676%
0.000%
728.00
0.00
728.00
727.28
Achieved
Row:
1
of 2
FDOT
TRANSPORTATION
SYMPOSIUM

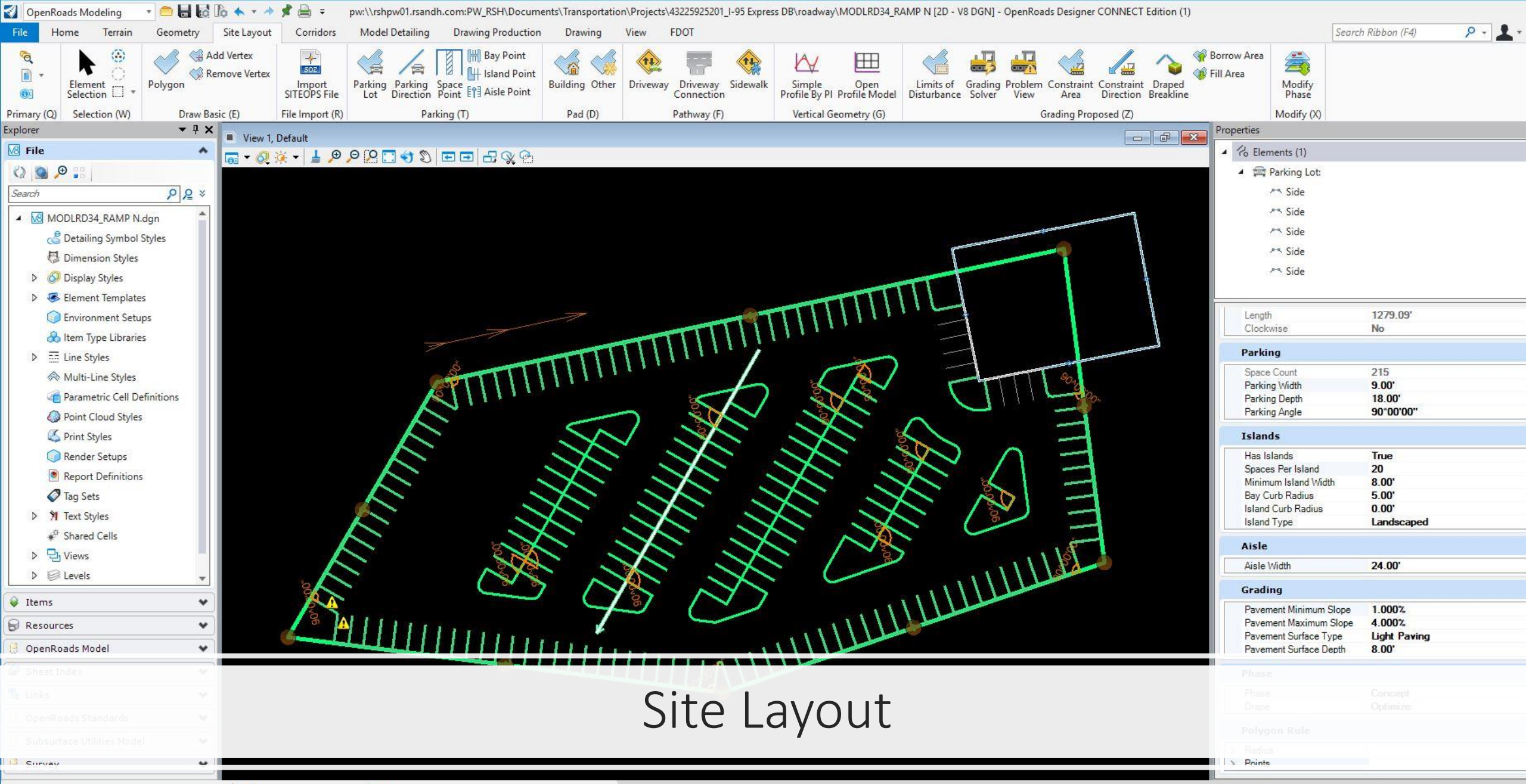
Reality Meshes

FDOT TRANSPORTATION SYMPOSIUM

OpenBridge Modeler

FDOT TRANSPORTATION SYMPOSIUM

LumenRT


OpenRoads Modeling
pw:\\rshpw01.rsandh.com:PW_RSH\Documents\Transportation\Projects\43225925201_I-95 Express DB\roadway\MODLRD34_RAMP N [2D - V8 DGN] - OpenRoads Designer CONNECT Edition (1)
File
Home
Terrain
Geometry
Site Layout
Corridors
Model Detailing
Drawing Production
Drawing
View
FDOT
Search Ribbon (F4)
Element Selection
Polygon
Add Vertex
Remove Vertex
Import SITEOPS File
Parking Lot
Parking Direction
Space Point
Bay Point
Island Point
Aisle Point
Building
Other
Driveway
Driveway Connection
Sidewalk
Simple Profile By PI
Open Profile Model
Limits of Disturbance
Grading Solver
Problem View
Constraint Area
Constraint Direction
Draped Breakline
Borrow Area
Fill Area
Modify Phase
Primary (Q)
Selection (W)
Draw Basic (E)
File Import (R)
Parking (T)
Pad (D)
Pathway (F)
Vertical Geometry (G)
Grading Proposed (Z)
Modify (X)
Explorer
File
Search
MODLRD34_RAMP N.dgn
Detailing Symbol Styles
Dimension Styles
Display Styles
Element Templates
Environment Setups
Item Type Libraries
Line Styles
Multi-Line Styles
Parametric Cell Definitions
Point Cloud Styles
Print Styles
Render Setups
Report Definitions
Tag Sets
Text Styles
Shared Cells
Views
Levels
Items
Resources
OpenRoads Model
View 1, Default
Properties
Elements (1)
Parking Lot:
Side
Side
Side
Side
Side
Length 1279.09'
Clockwise No
Parking
Space Count 215
Parking Width 9.00'
Parking Depth 18.00'
Parking Angle 90°00'00"
Islands
Has Islands True
Spaces Per Island 20
Minimum Island Width 8.00'
Bay Curb Radius 5.00'
Island Curb Radius 0.00'
Island Type Landscaped
Aisle
Aisle Width 24.00'
Grading
Pavement Minimum Slope 1.000%
Pavement Maximum Slope 4.000%
Pavement Surface Type Light Paving
Pavement Surface Depth 8.00'
Survey Feet
Survey Inches
1"=50'
CUSTOM ACS
1"=50'
Multi-Model Views
X 457614.15
Y 2165140.79
Element Selection > Identify element to add to set
Parking Lot: , Level: Default
CLConst_dp
FDOT TRANSPORTATION SYMPOSIUM

Site Layout

OpenDiscussion

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TRANSPORTATION SYMPOSIUM